

[001] CONSTRUCTIONAL UNIT

[002]

[003] TECHNICAL FIELD

[004] This invention relates to a constructional unit.

[005] BACKGROUND ART

[006] In erecting a building having more than one floor level there usually arises a need for a space to be left in a floor typically to install stairs between that and another floor. Such an opening needs to be protected in some way to prevent accidents arising from people or articles inadvertently dropping through the space. However the form of protection used should preferably not lead to access problems for acceptable use. A number of proposals have been made to enable such a space to be protected. However these do result in limitation, if not prevention, of the use of the space for passage of people or transfer of articles.

[007] DISCLOSURE OF INVENTION

[008] According to the present invention there is provided a constructional unit comprising:

[009] a support frame which is O-shaped in plan bounding an open central region, the support frame including first and second members which are each U-shaped in plan, each member being in the form of a base frame from which extend two side arms; the first and second members having their side arms telescopically engaged to define sides to the open central region of the O-shaped support frame; the telescopic engagement providing for-

[010] the spacing of the first base frame from the and second base frame to be adjustable over a range of distances; and

[011] the temporary securing of the first member to the second member at a predetermined spacing;

[012] the base frame of the first member being adapted for location at a first level at a first working location;

[013] the second member being adapted, at a position remote from the first member, for location at a second level at a second working location by means of at least one leg pivotably attached at or near one end of the, or each, leg to the base frame of the second member or to a side arm thereof; the opposite end to the one end of the, or each, leg being adapted for

location on the second working location; the second level being offset from and below the first level.

[014] According to a first preferred version of the present invention the, or each, leg can be varied in length to provide for the support frame to be maintained horizontal or at a predetermined angle to the horizontal.

[015] According to a second preferred version of the present invention or of the first preferred version thereof a platform member is provided to which, in a first working position, serves to fill the open central region of the support frame so as to prevent the inadvertent passage of an article or person from above the support unit through the otherwise open central region and a second working position where the platform member is withdrawn to allow access through the open central region. Typically the platform member is, at least in part, of openwork construction to enable a view to be obtained through the open central region, when the platform member is in the first working position.

[016] BRIEF DESCRIPTION OF DRAWINGS

[017] An exemplary embodiment of the present invention will now be described with reference to the accompanying drawings of a constructional unit of which:

[018] Figure 1 is a plan view;

[019] Figure 2 is a side view in direction of arrow II of Figure 1; and

[020] Figure 3 is a pictorial end view of a mock up of significant parts of the unit of Figures 1 and 2 being used in combination with a movable platform.

[021] MODE FOR CARRYING OUT THE INVENTION

[022] The figures variously show a constructional unit 11.

[023] The unit 11 includes a support frame made up of first member 13 and a second member 14 which are each U-shaped in plan. First member 13 comprises a base frame 15 from which extend side arms 16, 17. Second member 14 is in the form of a base frame 18 from which extend side arms 19, 20.

- [024] Side arm 16 is telescoped with side arm 20 and side arm 17 is telescoped with side arm 19 to provide an O-shaped support frame around a clear central region 12. The telescopic engagement provides for the spacing S of the first base frame 15 from the second base frame 18 to be varied over a range of distances depending on the gap to be filled. Clamps C1, C2 on, respectively, ends 19A, 20A provide for the securing of the telescoped side arms of the first member 13 and the second member 14 at a predetermined value of spacing S.
- [025] The base frame 15 of the first member 13 includes a flange 15A by means of which the unit 11 is located in an opening 20 in floor F2 at a height L1, above a lower floor F1. The opening 20 forms the top of a stair well for stair S.
- [026] Side arm 19 has pivotably attached to it end 30 of a telescopic prop 31 with upper tube 31A and lower adjustable foot 31B. Brace 32 enables the prop 31 to be fixed in the extended position shown in Figure 2. When the unit 11 is not in use the prop 31 can be folded to lie beneath side arm 19.
- [027] Side arm 20 has pivotably attached to it end 34 of a telescopic prop 35 with upper tube 35A and lower adjustable foot 35B. Brace 36 enables the prop 35 to be fixed in the extended position comparable to that of shown to that of prop 31 in Figure 2. When the unit 11 is not in use the prop 35 can be folded to lie beneath side arm 20.
- [028] In use the props 31, 35 are extended as shown in Figure 2 with the braces 32, 36 secured and the feet 31B, 35B are extended and clamped to ensure that the second base frame 18 is positioned in the opening 20 with the side arms 16, 17, 19, 20 are substantially horizontal. This configuration of the unit 11 while providing a secure structure does not intrude into the stair S and leaves a clear space A between the props (see Figure 3) so that access is readily available to the foot of the stair S for individuals or equipment to pass between floors F1, F2.
- [029] INDUSTRIAL APPLICABILITY
- [030] The constructional unit 11 provides for a secure mounting to lie within opening 20. It is further provided with a closure member 40 in the form of a folding lattice (Figure 3) of

aluminium alloy which while being light is of substantial strength. A suitable closure member for this purpose is the safety unit the subject of our UK Application 2,339,824. This member 40 is readily slid into place to close, or out of position to give access to, opening 20. Being of openwork construction it is possible for somebody wishing to use the stairs S (whether to ascend or descend) to view the region they wish to enter to establish whether or not it is safe to move the closure member 40. When in place the closure member 40 serves to prevent people or objects cannot inadvertently fall through opening 20.

- [031] Second base frame 18 lies within space 20 and is supported there by telescopic props 31, 35. To ensure that the frame 18 is laterally supported when space 20 is otherwise clear of the frame 18 a pair of lateral props 41, 42 are provided which can be driven outwardly to seat against the side of the space 20 and be locked their to limit lateral movement of frame 18 and so stabilise unit 11.